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ABSTRACT

The author delineates characteristics of research in education, focusing on the influence of the educational philosophies of logical positivism, operationalism, and pragmatism and on the strong behavioristic movements in education. A comparison is made between techniques in behavioral science research and traditional educational research methods. It is suggested that the behavioral sciences can help to unify subjective with objective knowledge for the formulation of moral obligations from social problems and assist education in developing a better understanding of the relation of the individual to the group. (SHM)

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EDUCATION AND THE BEHAVIORAL SCIENCES

Within the behavioral sciences, research is conducted to determine the acceptability of hypotheses derived from theories of behavior. Empirical data are collected to yield direct information about these hypotheses. Therefore, objectivity is stressed for one basic requirement in the scientific method is that scientific conclusions be arrived by methods which are public and which themselves may be replicated by competent investigators.[1]

The traditions of educational research have, however, dictated a practice somewhat contrary to this basic dictum: the criticism of existing research is considered presumptuous and the replication of other educational researchers efforts are looked upon as both unnecessary as well as even at times as unethical. Thus to build upon what others have researched is frowned upon and often this type of effort is viewed as not being "original." The result: much research in education goes unchallenged.[2]

Despite this state of affairs, the published quality of educational research hardly competes with the published

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[1] S. Siegel, Nonparametric Statistics for the Behavioral Sciences (New York: McGraw Hill Book Company, 1956), p. 6.

[2] S. Strauss, "Guidelines for Analysis of Research Reports," Journal of Educational Research 63:4 (December, 1969) p. 165.

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quality of related-professional journals. Through its own evaluative committee in 1962, the American Educational Research Association found a seven per cent accept, a forty-one per cent revise, and a fifty-two per cent reject rate for articles published in education journals as contrasted to a forty-one per cent accept, a forty-one per cent revise, and an eighteen per cent reject rate for articles published in other related-professional journals.[3]

But does this state of affairs fall completely on education? Probably not. First, at least since John Dewey's influence, education has depended heavily both philosophically as well as "realistically" on pragmatism. Pragmatism, in turn, has drawn most of its basic tenets from the behavioral sciences, particularly psychology.[4] Second, problems in education have lacked a rigorous experimental approach in research methodology and thus much educational research has made use of ex post facto conditions.[5] Third, whenever the pragmatic concept of individual differences among learners has been applied on an experimental basis, the cataloguing of the findings has resulted in accepted social and psychological norms. In

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[3]E. Wandt, A Cross-Section of Educational Research (New York: David McKay Company, 1965), pp. 2-4.

[4]G. F. Kneller, Existentialism and Education (New York: John Wiley and Sons, 1958), pp. 68-69.

[5]F. N. Kerlinger, Foundations of Behavioral Research (New York: Holt, Rinehart and Winston, 1964), p. 373.

turn, this has produced educational programs which have focused on inquiry, consensus, and process rather than on the individual, authentic freedom of the learner himself. Thus, this experimentalist-pragmatic approach to education has failed to sensitize the learner to his own sense of freedom.[6] Finally, because the behavioral sciences seem to have been overly concerned with externally placed guides on behavior, education itself has given little attention to the organismic states of the individual learner and, as a result, the behavioristic has been emphasized in the subject material to be taught as well as in teaching materials at the expense of the learner's physiological needs.[7]

But despite such criticisms of probably what has been a misapplication by education itself of the behavioral sciences positive contributions, certain movements within education will continue to have a strong behavioristic orientation. For example, the field of educational administration now is well on its way to avoid the traditional ad hoc approach:

> Administration is not entirely a common sense fly-by-the-seat-of-the-pants art which can only be passed on from practitioner to practitioner; it can be studied using the tools of the behavioral scientist. These tools include concepts and

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[6]Kneller, op. cit., p. 36.

[7]E. R. Hilgard, ed., "Theories of Learning and Instruction," Sixty-Third Yearbook of the National Society for the Study of Education, Part I (Chicago: University of Chicago Press, 1964), p. 29.

> theories of human behavior research designs, statistical insights, computers, and the logic of the modes of inquiry.[8]

Thus the behavioral sciences will continue to help break through the "world-taken-for-granted" perspective of the educational establishment as well as aid in promoting suspicion toward the self-evident and the self-validating in current traditional educational practices. Moreover, for the educational practitioner, the behavioral sciences will continue to provide sensitizing concepts that will focus on aspects of the world not otherwise singled out. In short, the behavioral sciences will continue to threaten educational ideology.[9]

Within the behavioral sciences themselves, the application of formal theories has been, according to Schutz, most "uninspiring." Could this be attributed to the nature of the data gathered by the behavioral sciences, namely their statistical nature, as in education, and the continued inability to apply existing formal theories to these data? Woodger in biology, Dodd and Parsons in sociology, and Hull and Freud in psychology each had referred to his system as "theory," but each showed little concern for the formalism of

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[8] D. E. Griffiths, ed. "Behavioral Science and Educational Administration," Sixty-Third Yearbook of the National Society for the Study of Education, Part II (Chicago: University of Chicago Press, 1964), pp. 2-3.

[9] R. J. Hill, "Social Science, Ideology, and the Professor of Educational Administration," Educational Administration Quarterly 1:3 (Autumn, 1965), pp. 21-39, passim.

his work.[10] Because of the great frequency of negative results in the behavioral sciences as well as the neglect thus far to apply the antecedent probability aspect of Bayes' theorem with greater frequency, if "hypotheses to-be-tested were systematically investigated by such techniques as reference to past experience and investigations, reanalysis of relevant data, and systematic introspection, then hypotheses finally chosen to be tested would have a better chance of being confirmed."[11] In short, Schutz was advocating a revival of Bayesian statistics before the application of other statistical analyses to hypotheses-to-be- tested. Could education itself profit from this recommendation?

In education, the notions of self-concept and self-actualization have been receiving strong emphasis but, according to Erikson, these workings of self-identity appear within the various social sciences in different contexts of

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[10] W. C. Schutz, FIRO: A Three Dimensional Theory of Interpersonal Behavior (New York: Rinehart and Company, 1958), pp. 6-7. See J. H. Woodgen, The Technique of Theory Construction (Chicago, University of Chicago Press, 1939); T. Parsons, The Social System (Glencoe, Illinois: The Free Press, 1951); S. Dodd, Dimensions of Society (New York: Macmillan, 1942); S. Freud, An Outline of Psychoanalysis (New York: Norton, 1949).

[11] Ibid., p. 203.

verifiability.[12] A separate field, the sociology of education, has emerged and because sociology makes heavy use of symbols as do literature, philosophy, and the arts, sociology itself is thus, according to Zetterburg, a humanistic discipline.[13] There furthermore seems to be turning away from an orientation in education which leads the learner to feel, as a result of his total educational experience, that he is no more than an object about whom conclusions have been already reached. Whenever educators focus mostly on too much empiricism and behavioristic statistical data derived from group norms, this easily can be the result. Then should education and educational researchers look toward the behavioral sciences for any of its answers?

As long as the three orientations of logical positivism, operationalism and pragmatism continue to influence educational thought--the latter two most heavily--then education has no choice but to look toward the behavioral sciences. According to DiRenzo, if it were necessary to choose between the three, pragmatism would be particularly valid for the behavioral sciences for it allows for the testing of hypotheses that lead to substantive theory.

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[12] E. E. Erikson, "Autobiographic Notes on Identity Crisis," Daedulus (Winter, 1970), pp. 730-759.

[13] H. L. Zetterburg, On Theory and Verification In Sociology, 3rd edition (Totowa, New Jersey: Bedminster Press, 1954), p. 2.

Until existential thought began to threaten pragmatic thought in education during the sixties, the latter had almost near monopoly on American educational practices and research from about 1900 to 1960. Thus, despite the continued necessity for a pragmatic orientation, the behavioral sciences have yet to distinguish clearly between meaningful and meaningless concepts as well as concepts corresponding to real experience, on the one hand, and purely verbal definitions on the other.[14] And according to existentialist thought, the behavioral sciences now have an opportunity to unify subjective with objective knowledge for the formulation of moral obligations from social problems and thus assist education in developing a more profound understanding of the relation of the individual to the group.[15] The alliance between education and the behavioral sciences is in need of a new reorientation.

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[14] G. J. DiRenzo, ed. Concepts, Theory and Explanation in the Behavioral Sciences (New York: Random House, 1966), pp. 12-13.

[15] Kneller, op. cit., p. 130.